



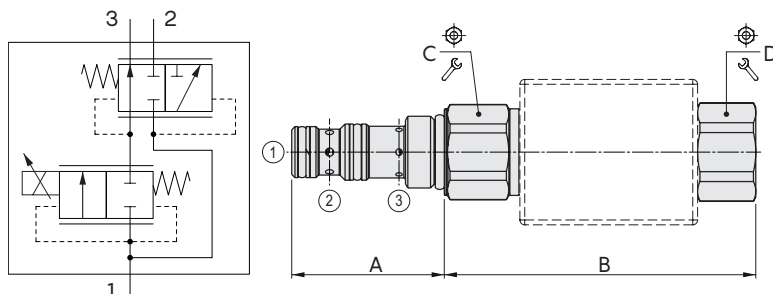
PP..X type flow control pressure compensated valves – 3 way

- Spool type
- Direct acting through proportional solenoid
- Different types of emergencies available
- With exceeding flow to pressure
- From SAE08 to SAE16 cavities

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

		PP08X	PP10X	PP12X	PP16X
Nominal flow	Q1max= Q3max=	20 l/min (5.2 US gpm) 15 l/min (4 US gpm)	50 l/min (13.2 US gpm) 30 l/min (7.9 US gpm)	90 l/min (23.8 US gpm) 60 l/min (16 US gpm)	150 l/min (39.6 US gpm) 90 l/min (24 US gpm)
Max. pressure		315 bar (4600 psi)			
Oil leakage	at 210 bar (3050 psi)	80 cm³/min (4.9 in³/min)	150 cm³/min (9.2 in³/min)	250 cm³/min (15.3 in³/min)	400 cm³/min (24.4 in³/min)
Fluid		mineral based or synthetic hydraulic fluid with lubricating properties			
Viscosity		10-200 cSt			
Max level of contamination		18/16/13 ISO4406			
Fluid temperature	with NBR seals+ Polyurethane with FPM seals	from -25°C (-13°F) to 90°C (194°F) from -20°C (-4°F) to 110°C (230°F)			
Environmental temp. for working conditions		from -20°C (-4°F) to 60°C (140°F)			
Cavity		SAE 08/3	SAE 10/3	SAE 12/3	SAE 16/3
Coil type*		BQP19 or BH			
Nominal voltages		12VDC - 24VDC ± 10%			
Power rating		33 W (BH) - 15 W (BQP19)			
Max. control current		12V -> 1.70A - 24V -> 0.85A (BH) 12V -> 1.25A - 24V -> 0.63A (BQP19)			
Dither frequency		150Hz			
Hysteresis		8%			
Weight		0.44 kg (0.97 lb)	0.49 kg (1.08 lb)	0.61 kg (1.34 lb)	1 kg (2.20 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt. - *For coils further features see from page 201.

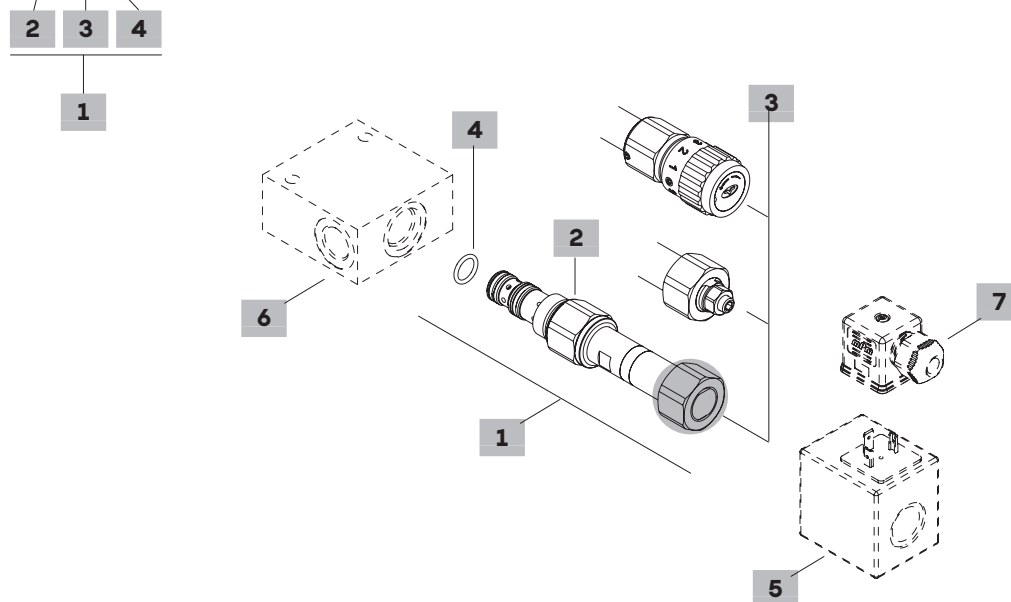


Valve type	A		B		C			D		
			N without emergency							
	mm	in	mm	in	Nm	lbft	Nm	lbft		
PP10X	47.2	1.86	96.4	3.80	27	50	37	28	5	3.7

For dimensions with different type of emergency see list page 124

Ordering codes and description composition

PP08X/A0NB



1 Cartridges

TYPE	CODE	DESCRIPTION
SAE cavity 08/3		
PP08X/A0NB	OPP08002014	Without emergency
PP08X/A0TB	OPP08002015	Screw type emergency
PP08X/A0VB	OPP08002016	Handknob emergency
SAE cavity 10/3		
PP10X/A0NB	OPP10002031	Without emergency
PP10X/A0TB	OPP10002033	Screw type emergency
PP10X/A0VB	OPP10002035	Handknob emergency
SAE cavity 12/3		
PP12X/A0NB	OPP12002037	Without emergency
PP12X/A0TB	OPP12002039	Screw type emergency
PP12X/A0VB	OPP12002041	Handknob emergency
SAE cavity 16/3		
PP16X/A0NB	OPP16002013	Without emergency
PP16X/A0TB	OPP16002015	Screw type emergency
PP16X/A0VB	OPP16002014	Handknob emergency

2 Pressure drop from 1 to 3

TYPE	DESCRIPTION
A	12 bar (170 psi)

3 Emergency

TYPE	DESCRIPTION
N	Without emergency
T	Screw type
V	Handknob

4 Seals

TYPE	DESCRIPTION
B	NBR (Buna)+Polyurethane o-ring seals, std configuration
V	FPM (Viton) o-ring seals, contact Sales Dept

5 Coils

TYPE	CODE	DESCRIPTION
BH 12VDC	4SLD001200A	12VDC-ISO4400 coil
BQP19 12VDC	4SL5000126A	12VDC-ISO4400 coil

For complete coils list see from page 201

6 Valve body

TYPE	CODE	DESCRIPTION
SAE08/3-SAE8	3CC0830K11	Aluminium body for cavity 08 valve, SAE8 std thread
SAE10/3-SAE8	3CC1030K11	Aluminium body for cavity 10 valve, SAE8 std thread
SAE12/3-SAE10	3CC1230L11	Aluminium body for cavity 12 valve, SAE10 std thread
SAE16/3-SAE12	3CC1630M11	Aluminium body for cavity 16 valve, SAE12 std thread

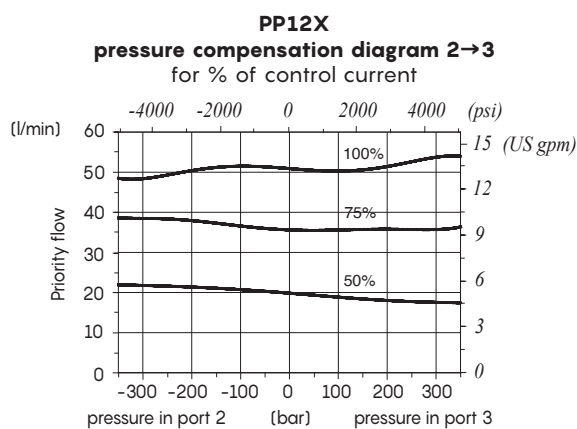
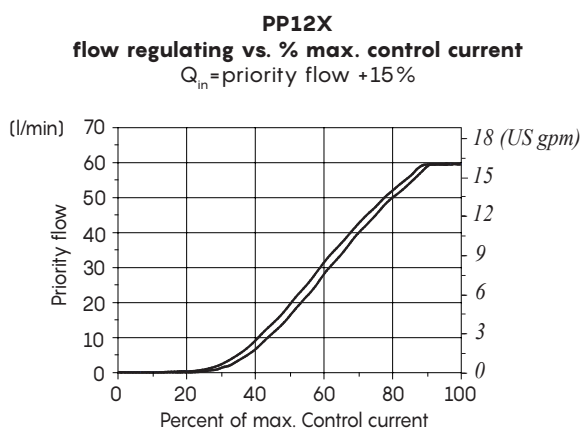
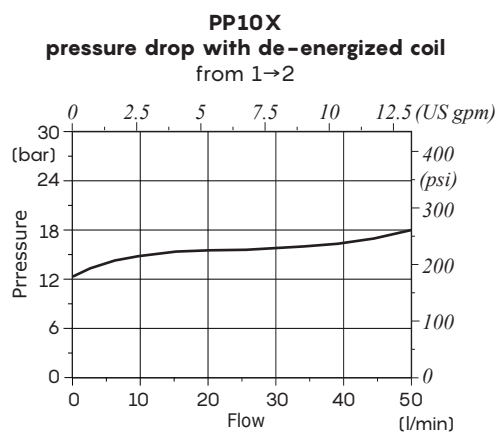
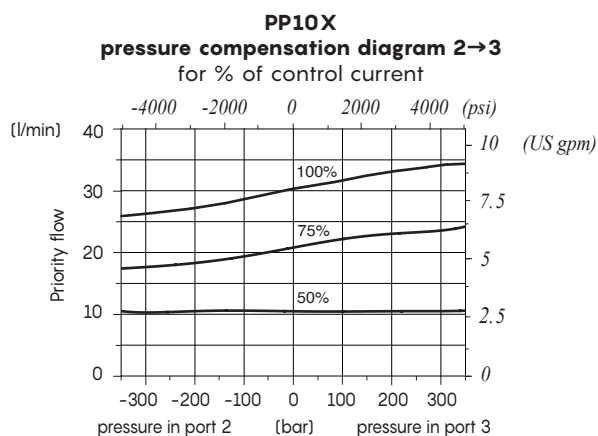
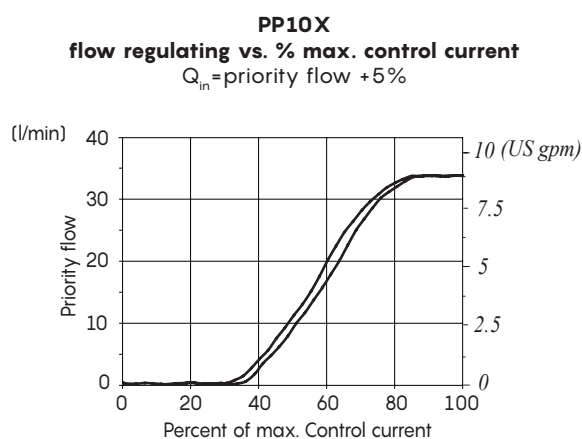
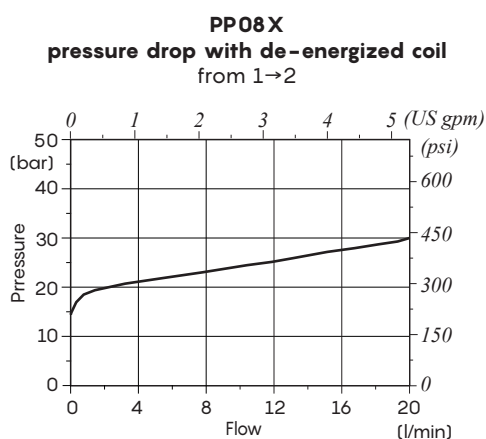
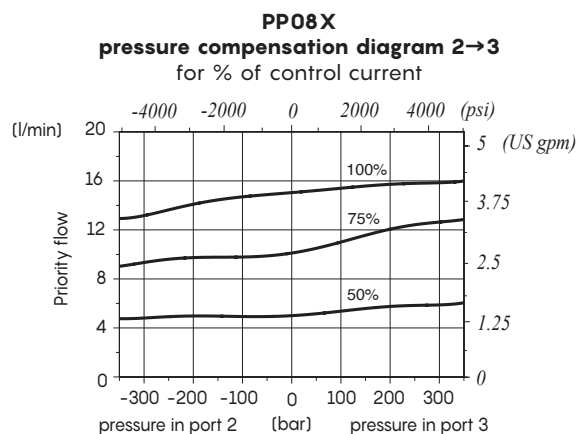
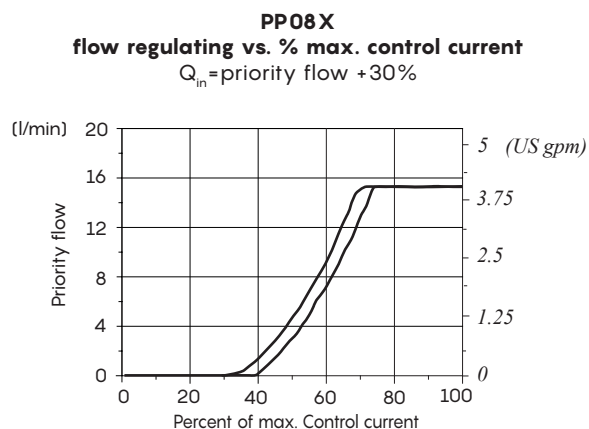
Note: aluminium body can stand up to 210 bar (3050 psi)
For steel bodies or different threading see from page 210

7 Connector

TYPE	CODE	DESCRIPTION
ISO4400	4CN1009995B	Connector

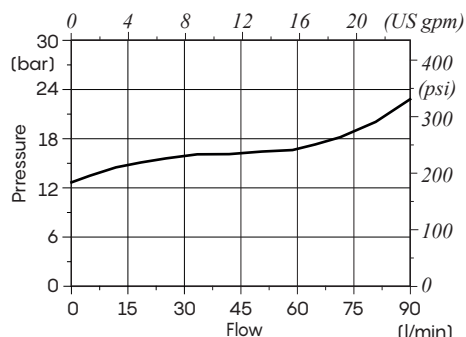
For complete connectors list see from page 201

Rating diagrams

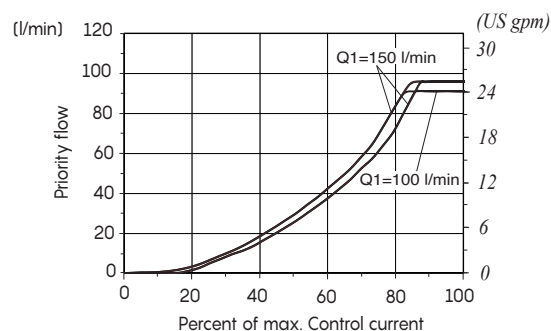


Rating diagrams

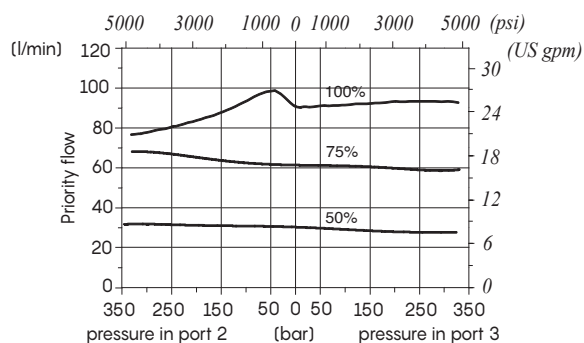
PP12X
pressure drop with de-energized coil
from 1→2



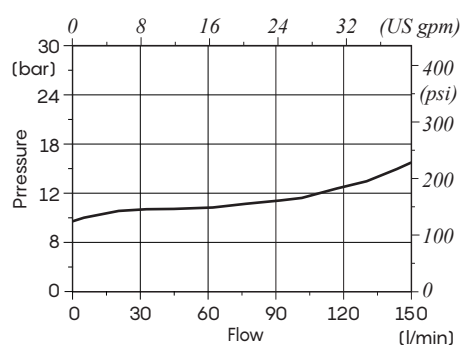
PP16X
flow regulating vs. % max. control current
 Q_{in} = priority flow +10%



PP16X
pressure compensation diagram 2→3
for % of control current - $Q_1=100$ l/min



PP16X
pressure drop with de-energized coil
from 1→2



Types and dimensions

Valve type	A		N		B		V		C		D	
	mm	in	without emergency		T screw		handknob		Nm	lbft	Nm	lbft
PP08X	40.8	1.60	93.9	3.70	107.9	4.25	141.9	5.59	24	30	22	28
PP10X	47.2	1.86	96.4	3.80	110.4	4.35	144.1	5.67	27	50	37	28
PP12X	73.5	2.89	97.4	3.83	111.4	4.39	145.4	5.72	32	80	59	28
PP16X	75	2.95	121.4	4.78	135.4	5.33	168.9	6.65	41	100	74	28